

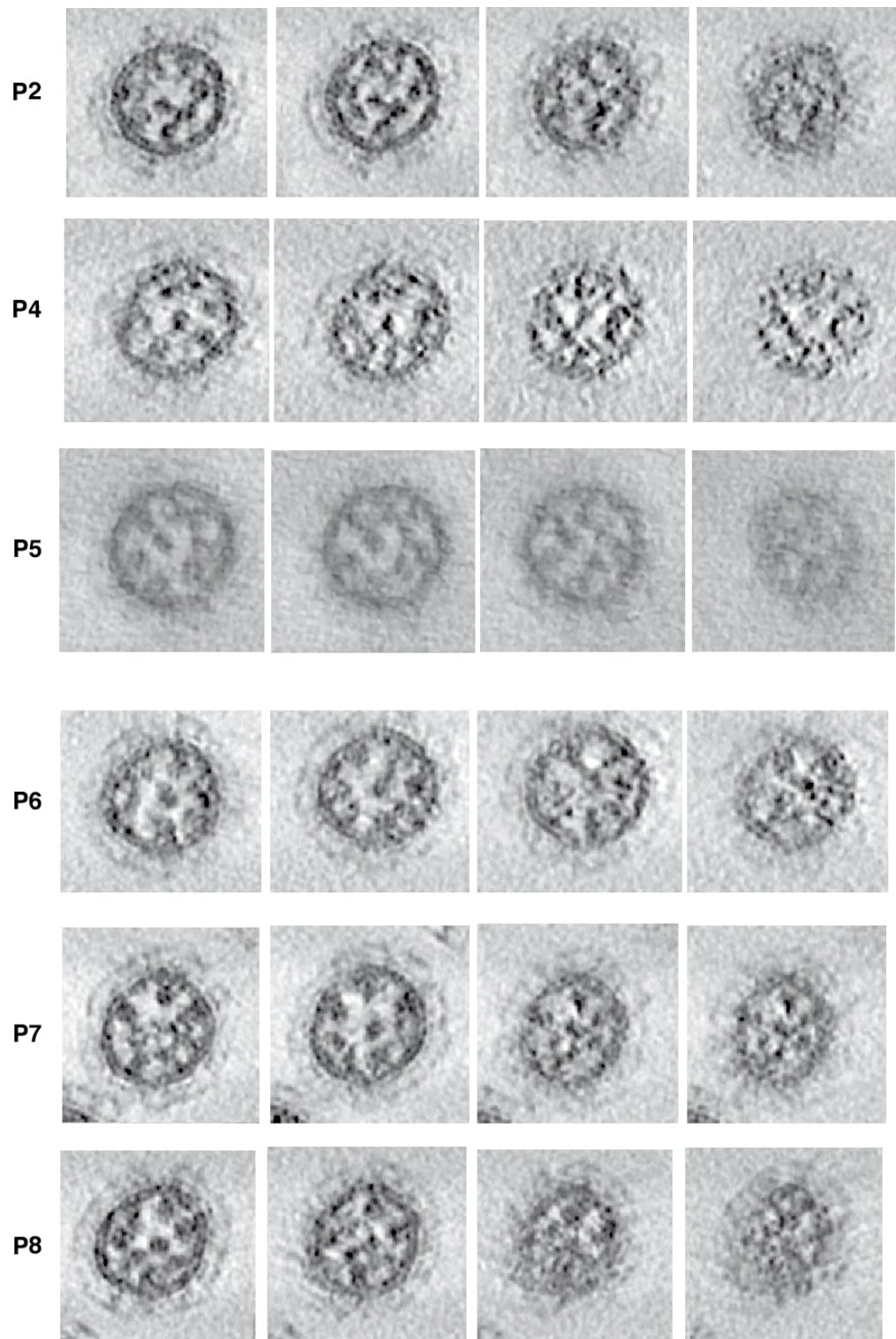
## **LEGENDS TO SUPPLEMENTARY MOVIES AND SUPPLEMENTARY FIGURES**

### **Supplementary Movies S1A and S1B: Tomograms of H3N2 influenza A virus particles.**

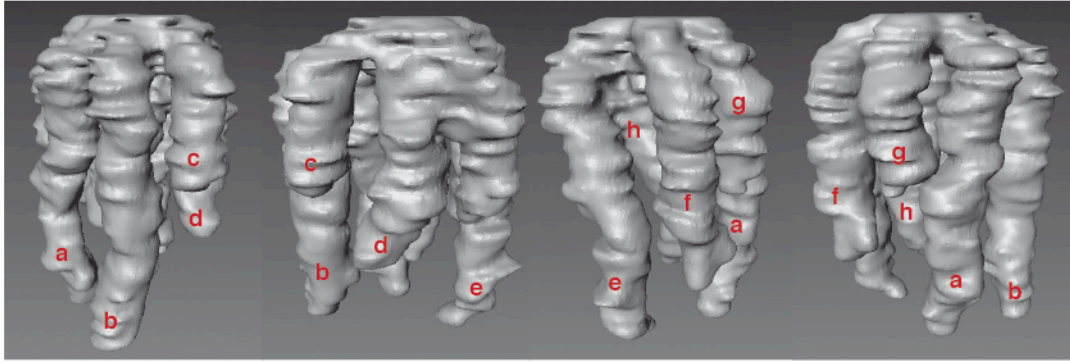
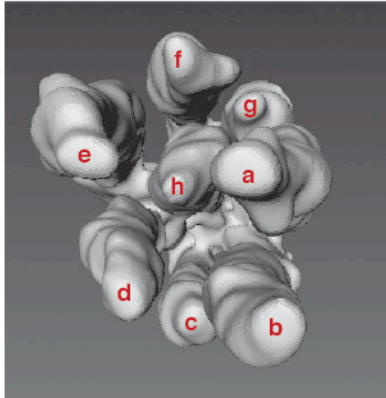
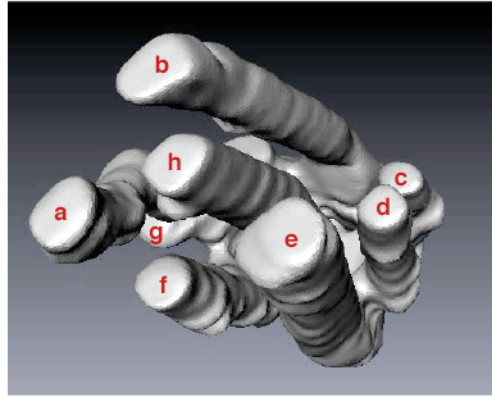
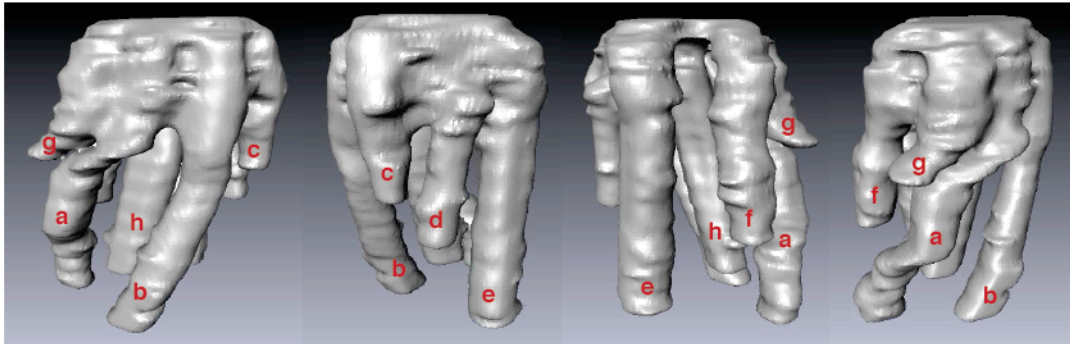
Tomogram of particle P2 (**A**) and P3 (**B**), from the bottom to the budding tip of the virion.

### **Supplementary Movies S2A and S2B: 3D surface rendering of the vRNPs in budding**

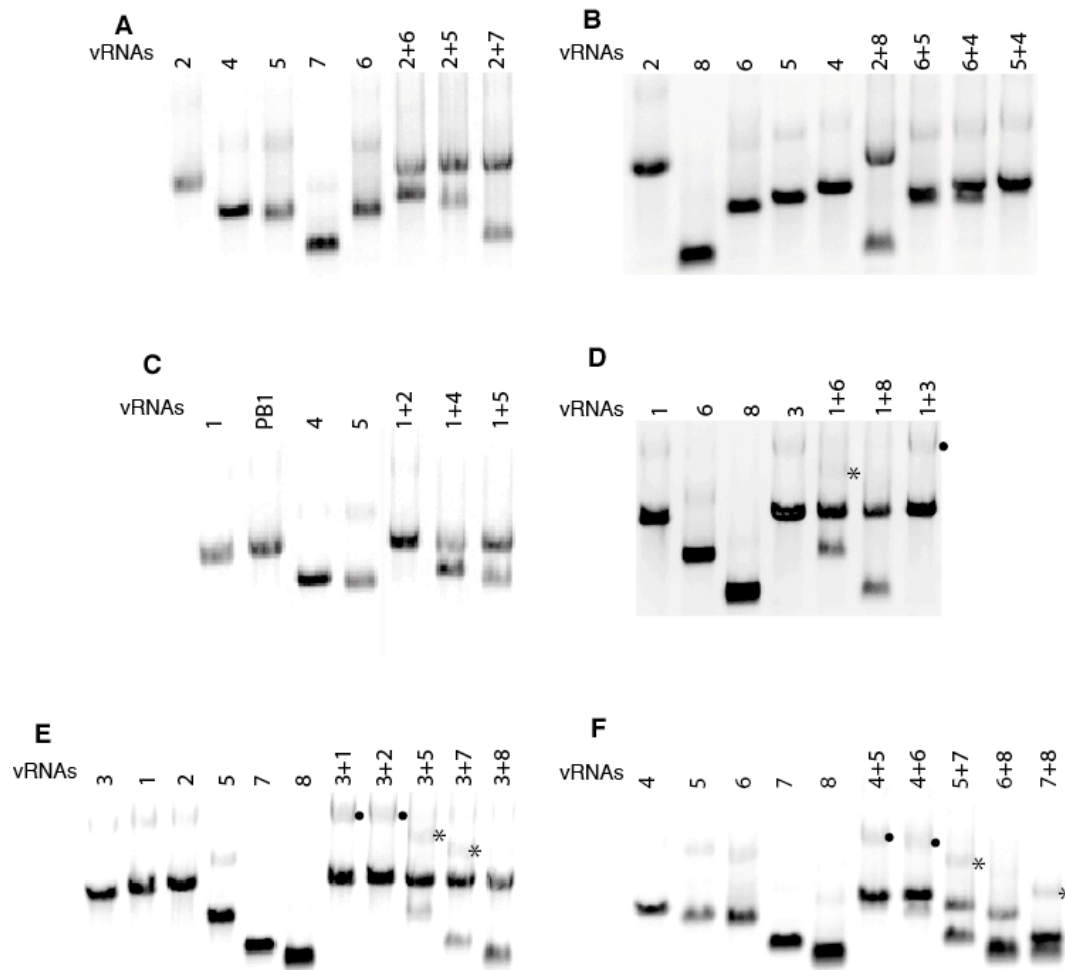
**H3N2 influenza A virions. (A) Particle P2 ; (B) and P3.**



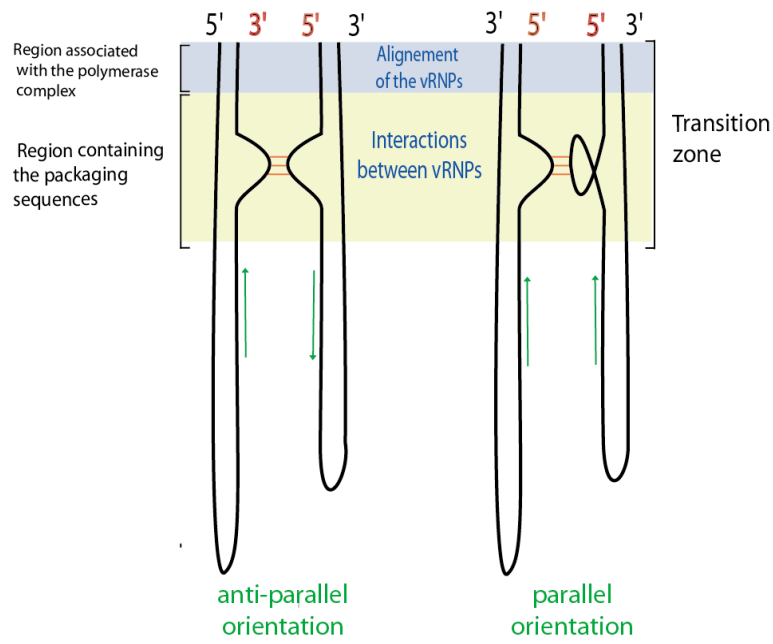
**Supplementary Fig. 1: Electron tomography of budding H3N2 influenza A virions.**  
Transversal sections through the “transition zone” of particles P2, P4, P5, P6, P7, and P8.

**A****B****C****D**

**Supplementary Fig. 2: 3D surfaces of the vRNPs in viral particles P1 and P4.** Side (**A, D**) and bottom (**B, C**) views of the 3D-reconstruction of the interior of particles P1 (**A, B**) and P4 (**C, D**) based on tomography experiments. vRNPs are labelled anticlockwise from a to g, starting with the two long adjacent vRNPs, and h is the central vRNP.



**Supplementary Fig. 3: Native agarose gel electrophoresis of pairs of vRNAs that are not involved in significant RNA/RNA interactions *in vitro* (A, B, C, D, E and F).** Visible intermolecular complexes (marked by asterisks) were quantified (Panel D: 1+6: 9%; Panel E: 3+5: 6%; 3+7: 9%; Panel F: 5+7: 5%; 7+8: 6% . Where the formation of the heterodimeric complex could not be ascertained, due to the possible overlap with the RNA homodimers, the position of the complexes is marked by a circle. In the latter cases, quantification of the dimer that migrates at the homo/heterodimer position was performed and compared to the amount of homodimer formed in the presence of only one vRNA (Panel D: 1: 6%, 3: 7% and 1+3: 9%; Panel E: 3: 7%, 1: 8%, 2: 7%, 3+1: 10%, 3+2: 11%; Panel F: 4: 4%, 5: 12%, 6: 7%, 4+5: 10% and 4+6: 7%). In all cases, when both vRNAs were co-transcribed, the percentage of homo/heterodimer was lower than the added percentages of homodimers when each vRNAs were transcribed individually.



**Supplementary Fig. 4: Scheme depicting local anti-parallel base-pairing between vRNAs with globally parallel or anti-parallel orientations.**